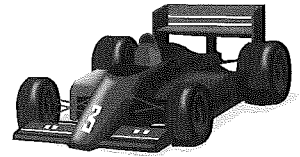




Unit 2 Lesson 2

Hot Rods



- 1 The segment below represents 100% of a segment. Draw a new line segment whose length is 60% of the given line segment.

- 2 50% of a line segment is drawn below. Draw a new line segment whose length is 100% of the given line segment.

- 3 75% of a line segment is drawn below. Draw a new line segment whose length is 100% of the given line segment.

- 4 80% of a line segment is drawn below. Draw a new line segment whose length is 100% of the given line segment.

- 5 $66\frac{2}{3}\%$ of a line segment is drawn below. Draw a new line segment whose length is 100% of the given line segment.

- 6 The segment below represents 200% of a segment. Draw a new line segment whose length is 300% of the given line segment.

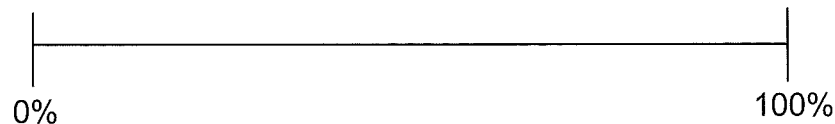
- 7 Draw a new line segment whose length is 250% of the line segment below.



The Race is On

- 1 20% of the people wore baseball caps to the race on Saturday. If 520 people wore baseball caps, how many people attended the race?

- Locate and label 20% on the segment below.



- What do 520 people represent, 20% or 100%? Write 520 above the appropriate percent on the segment.
 - How could you use the information on the segment to find the number of people who attended the race?
 - How many people attended the race?
- 2 75% of the people in attendance at the race on Saturday were men. If there were 900 men at the race, how many people were at the race?

- Locate and label 75% on the segment below.



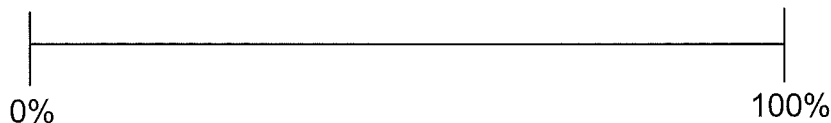
- What do 900 men represent, 75% or 100%? Write 900 above the appropriate percent on the segment.
- How could you use the information on the segment to find the number of people at the race?
- How many people were at the race on Saturday?
- How many women were at the race on Saturday?



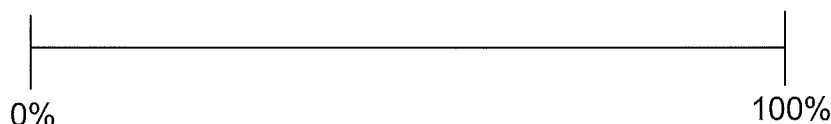
Unit 2 Lesson 2

The Race is On

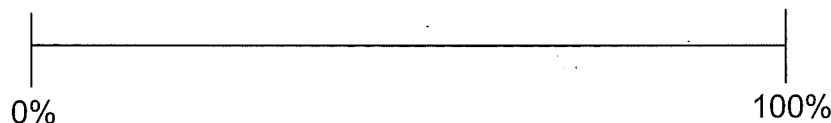
- 3 40% of the race cars were painted red. If there were 30 cars in the race, how many were painted red? Use the line segment below to determine your answer.



- 4 The first 30% of the race attendees on Sunday received a free bobble head. If 720 bobble heads were distributed, how many people attended the race on Sunday? Use the line segment below to determine your answer.



- 5 $66\frac{2}{3}\%$ of the race car drivers are under the age of 30. If 36 drivers are under the age of 30, how many drivers are there in all?
- How many drivers are ages 30 and over?
 - Use the line segment below to determine your answers.





Independent Practice

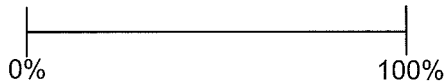
You can use line segments or write proportions to help you solve percent problems.

Example:

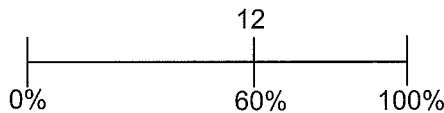
Twelve drivers wore designer sunglasses. If this represented 60% of the drivers, how many drivers were in the race?

Line segment method

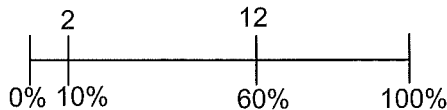
Step 1: Draw a line segment to represent 100%.



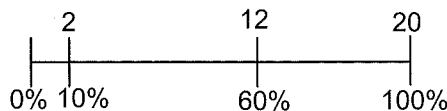
Step 2: Label the line segment with given information from the problem.



Step 3: Use the line segment to help you solve the problem. If 60% of the drivers equal 12 drivers, you can find 10% by dividing both values by 6.



Since 2 represents 10% of the drivers, multiplying both values by 10 will find 100% of the drivers. There are 20 drivers in the race.



Proportion method

Step 1: Write a proportion to illustrate the relationships given. Labeling the proportion will help.

$$\frac{\text{sunglasses}}{\text{drivers}} : \frac{12}{n} = \frac{60}{100}$$

Step 2: Look for relationships between the numbers. Simplifying the ratios to lowest terms may help you identify the relationship.

Since $\frac{60}{100} = \frac{3}{5}$, the proportion can be rewritten as:

$$\frac{\text{sunglasses}}{\text{drivers}} : \frac{12}{n} = \frac{3}{5}$$

Since $3 \times 4 = 12$, $5 \times 4 = n$.

$$\frac{\text{sunglasses}}{\text{drivers}} : \frac{12}{n} = \frac{3}{5}$$

$\times 4$
 $\times 4$

There are 20 drivers in the race.



Unit 2 Lesson 2

Use a line segment or a proportion to help you solve each problem.

- 1 Of the 1200 people at the race, 5% won their tickets from the radio station. How many people won their tickets from the radio station?

- 2 Out of the \$950 in total snack sales, \$380 worth of hot dogs were sold. What percent of the total snack sales were for hot dogs?

- 3 Thirty percent of the fans in Section A wore ear plugs. If there were 200 people in Section A, how many wore ear plugs?

- 4 Of the 2 T-shirt styles available (long-sleeve and short-sleeve), 40% of the sales were for short-sleeve shirts. If 100 short-sleeve shirts were sold, how many long-sleeve shirts were sold?

- 5 Fifteen percent of the children at the race wore baseball caps. If there were 27 children in baseball caps, how many children were at the race?



-
- 6 Twenty percent of the parking spaces are being repaved. If 150 parking spaces are being repaved, how many parking spaces are there in all?
- 7 Souvenir pennants are normally priced at \$5.00. If they are on sale for 30% off, what is the sale price?
- 8 600 people attended the race on Thursday. If 25% more people are expected to attend the race on Friday, how many people are expected to attend Friday's race?
- 9 A ticket to the race costs \$20. If 5% of the ticket price went to the drivers, how much did the drivers earn for each ticket sold?
- 10 Chris completed the first lap in 50 seconds. If he completed the second lap in 10% less time, how long did it take him to complete the second lap?



Unit 2 Lesson 2

And the winner is...

Ricky completed his first lap in 80 seconds. He decreased the time on his second lap by 15%. Bobby completed his first lap in 70 seconds. He increased the time on his second lap by 20%. Who completed the 2 laps in less amount of time? Justify your answer.

FOR TEACHER USE ONLY:

a. YES NO Student arrives at a correct solution?

	4	3	2	1
b. Conceptual Knowledge				
c. Procedural Knowledge				
d. Communication				



- 1 A ticket for a box seat is normally \$40. If it is on sale for 30% off, what is the sale price of the ticket?

A \$4
B \$12
C \$18
D \$28

- 2 Sixty percent of the beverage sales was for bottled water. If the bottled water sales were \$750, which proportion could NOT be used to find x , the total beverage sales?

A $\frac{60}{100} = \frac{750}{x}$
B $\frac{750}{60} = \frac{x}{100}$
C $\frac{100}{60} = \frac{750}{x}$
D $\frac{60}{750} = \frac{100}{x}$

- 3 35% of the attendees at the Saturday race planned to return for Sunday's race. If there were 900 attendees at Saturday's race, how many of those planned to return on Sunday?

A 45
B 315
C 585
D 865

- 4 195 people at Sunday's race bought a souvenir program book. If 12% of the people at Sunday's race bought a souvenir program book, how many people attended Sunday's race?

A 1,430 people
B 1,525 people
C 1,625 people
D 2,340 people